# COST AND MANAGEMENT

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Accounting: A Tool For Production Planning . . .
By Gerald F. Rossettie

Control of Marketing Costs . . .
By Arthur P. Felton

Budgeting in a Small Hard Goods Manufacturing Company . . .
By A. H. Seed

LOSS

*Official Journal of*

*The Society of Industrial and Cost Accountants of Canada*

Nov., 1955

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# Cost and Management

VOL. XXIX NOVEMBER No. 10

ACCOUNTING: A TOOL FOR PRODUCTION PLANNING
By Gerald F. Rossettie ..... 363

A graduate in Arts of Assumption College, Windsor, Mr. Rossettie has been with the Corning Glass Works, Elmira, N.Y., since 1934 when he became a member of the Research Laboratory Staff. He was named to his present position of Supervisor of Inventory Forecast and Control in the Production Planning Department, Technical Products Division, in 1945. He is currently specializing in electronic mechanization of production and inventory control operations in collaboration with the cost and machine accounting groups. Mr. Rossettie is a member of the Elmira Area Chapter of the National Association of Cost Accountants.

CONTROL OF MARKETING COSTS
By Arthur P. Felton ..... 375

Mr. Felton is Vice-President and Director of Marketing of the management consultant firm of Bruce Payne and Associates, Inc., Westport, Conn., with offices in Boston, Chicago, Atlanta, Montreal, Rio de Janiero, Sao Paulo, and Mexico City. He is a graduate of Brown University (Ph.B. in Economics) and Harvard Business School (M.B.A. in Sales Management), a member of the Society for Advancement of Management, American Management Association, American Marketing Association, Harvard Business School Club of New York, and Phi Gamma Delta. Before joining Bruce Payne and Associates, Mr. Felton was Executive Vice-President and General Manager of Norfolk Paint and Varnish Company, and Vice-President of Burche Silver Corporation.

BUDGETING IN A SMALL HARD GOODS MANUFACTURING COMPANY
By A. H. Seed ..... 381

At present Secretary and Controller of Superior Separator Company, Hopkins, Minn., A. H. Seed first joined this company in 1948 as Chief Cost Accountant, rising successively to Chief Accountant, Head of Financial Planning, Controller and Secretary. He is a graduate of Yale University where he obtained his B.Sc. in Industrial Administration. Prior to joining Superior Separator, Mr. Seed was associated with Minneapolis-Honeywell Reg. Co. as Factory Accountant and with Shell Development Company as Assistant Cost Engineer. He is a Director of the Twin Cities Chapter of the National Association of Cost Accountants.

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# *Editorial Comment . . .*

## WHAT ABOUT THIS?

"Complete budgetary control procedures are not yet in such use here (Canada) so it would seem to be a good opportunity to extend their value to your clients by the design and installation of such systems."

"More emphasis should be placed on cost accounting techniques and interpretations in your prescribed course of study."

Thus spoke Senator Molson, a prominent industrialist and chartered accountant, in addressing this year's opening meeting of the Chartered Accountants' annual conference.

Senator Molson was directing his remarks to accountants in public practice, but his suggestions are equally pertinent for accountants who are already employed in industry, commerce or government. For, once the budgetary control procedures have been designed and installed and the cost systems conceived and established, it is the responsibility of the accountants in industry to use these systems to the best advantage of their employers.

To use such systems to advantage requires skill. Moreover, it is skill of a high order. In budgeting, for example, the accountant must be familiar with the procedures and forms adopted in converting a forecast of future economic activity into a coordinated programme of sales, purchases, employment, production, and capital expansion for the company as a unit. In addition, he must know the centre of responsibility for each procedure, understand the logic of the sequence of procedures, and have some appreciation of alternative methods which would serve the same objectives. Similarly, cost accounting calls for equal skill. Not only must the accountant be proficient in the procedures and methods adopted in recording and analysing the costs of operations in terms of some unit of input or output such as pounds, tons, dozens, orders, etc., but he must also be able to adopt his basic system to reflect standards of performance and measurements of productivity. In other words, he must be able to convert his actual cost system into one which also establishes operating standards for controllable costs by cost centres and by products.

Senator Molson suggests that there is not sufficient use being made of these budgetary and costing devices, and he recommends that students-of-accounts be given more training in the practice and manipulation of them.

We are always pleased to hear leading industrialists confirming what we have always believed, namely, that great possibilities of improvement through training are now to be found in the area of managerial accounting. We believe this so firmly that last year we commissioned a leading American authority with native Canadian background to completely revise our course in Final Cost Accounting.

It may interest our readers to know a little about this new course. The emphasis throughout is on cost analysis and cost control. This emphasis, however, does not restrict attention to the analysis and interpretation of information contained within the accounts. Consideration is also given to the broader problem of training students to test alternative business plans for profitability. As is to be expected of an advanced cost course, standard costs is the first topic, and it is intensively studied both as applied to job order and to process costs.

Next, budgets and their usefulness are thoroughly discussed. Budgetary control and forecasting are treated as part of accounting controls, perhaps the most important part, since they are concerned with every activity of the corporation. Manufacturing, sales, selling and administrative expenses, plant and equipment are all shown to be a part of a master budget. It is amply demonstrated in the process of exposition how the budget becomes a blueprint for the future and if properly installed does these things:

(a) Encompasses all the business operations and not merely a given department or certain types of costs.
(b) Relates sales income in total and by segments to the corresponding costs and expenses.
(c) Establishes predetermined objectives, is forward looking and is not restricted merely to a comparison of actual results with standard.

Many other cost accounting devices are fully explained and referenced, in the section following budgeting, including distribution costing, break-even analysis and differential cost analysis. The important considerations surrounding profit volume relationship and marginal costs are gone into in much detail. What does happen to profits when volume, cost price or product mix change? The material provides the necessary technical approaches to the solution of such problems.

A final section is devoted to the principle of direct costing, make or buy considerations and other uses of cost data.

We believe this study course and notes fully caters to an urgent need for extensive costing and budgetary knowledge. To our knowledge there is nothing available that approaches it in informativeness and usefulness to the accounting student or executive, and in case any member desires a set of the notes for his library, we might add it is well worth five dollars.

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# *C. & M. Round-Up . . .*

By N. R. Barfoot, R.I.A.

### Sales Tax Revenue

Here is a recent analysis of Canadian sales tax revenue.

The 10% sales tax yields between seven and eight hundred million per year and specifically amounted to $734,000,000 in the year ending March 1954.

About 90% of it can be supported by available data as follows:

| | | |
|---|---|---|
| Consumer purchases | 428 million | or 58% |
| Industry purchases | 174 million | or 24% |
| Defence purchases | 66 million | or 9% |

Within the consumer group the following percentages of total revenue are found:

| | |
|---|---|
| Clothing and personal effects | 15% |
| Household appliances | 10% |
| Passenger cars and accessories | 10% |
| Alcoholic beverages | 6% |
| Confectionary and taxable foods | 4% |
| Tobacco products | 4% |
| Miscellaneous including soaps, medicines, gasoline, lubricants | 9% |
| Industry purchases as a percentage of the whole were: | |
| Utilities, including railways, airlines, power, gas and water companies, telephone and broadcasting companies | 8% |
| Trucks, tractors and buses | 4% |
| Defence purchases including military aircraft ordnance, tanks, ships and electronic equipment | 9% |

### Why Office Help Quits

A recent survey in the Toronto area by NOMA gives the following interesting facts on why white-collar people leave jobs.

First of all the Males

| No. of years' service | 0 - 1 | 1 - 2 | 2 - 5 | Over |
|---|---|---|---|---|
| Larger salary | 139 | 57 | 51 | 33 |
| Chance for advancement | 74 | 60 | 72 | 47 |
| Better work | 126 | 35 | 32 | 18 |
| Better hours | 4 | 2 | . | . |
| Better fringe benefits | . | . | . | . |
| Discharged for incompetence | 140 | 21 | 18 | 10 |
| Poor health | 24 | 10 | 3 | 9 |
| Surplus requirements | 27 | 11 | 7 | 2 |
| Leaving area | 87 | 32 | 21 | 9 |
| Return to school | 79 | 9 | 9 | 3 |

The Female pattern may be a guide to better office management in your firm:

| No. of years' service | 0 - 1 | 1 - 2 | 2 - 5 | Over |
|---|---|---|---|---|
| Larger salary | 153 | 88 | 78 | 14 |
| Chance for advancement | 48 | 23 | 18 | 10 |
| Better work | 143 | 41 | 43 | 19 |
| Better hours | 3 | . | 1 | . |
| Better fringe benefits | 1 | . | . | . |
| Discharged for incompetence | 200 | 16 | 28 | 4 |
| Poor health | 55 | 21 | 25 | 9 |
| Surplus requirements | 14 | 5 | 2 | 1 |
| Leaving area | 142 | 63 | 55 | 16 |
| Return to school | 153 | 12 | 13 | 2 |
| To be married | 54 | 53 | 62 | 37 |
| Family reasons | 48 | 17 | 27 | 11 |

### U.S. Investment In Canada

These are the latest figures in American capital in use in Canada.

Total at end of year 5.9 billions, 700 million more than in previous year

Details show a comparison with 1949

| | Now | 1949 |
|---|---|---|
| Mining and Smelting | 783 million | 287 million |
| Petroleum | 1,160 million | 276 million |
| Manufacturing | 2,553 million | 1,724 million |
| Public Utilities | 301 million | 287 million |
| Trade | 358 million | 146 million |
| Other | 784 million | 357 million |
| Total | 5.9 billion | 3.15 billion |

Canadian securities in the U.S. amounted to well over 3 billion.

### Population Forecast

It is always interesting to make predictions. Here is a recent one on Canada's population for 1975. The 1955 figures are also included as comparative material.

| Age group | | 1955 | % | 1975 | % |
|---|---|---|---|---|---|
| 0 - 19 | Male | 3,096,800 | 39.1 | 5,049,000 | 49.6 |
| | Female | 2,969,800 | 38.5 | 4,797,400 | 40.0 |
| 20 - 64 | Male | 4,113,700 | 55.2 | 6,529,900 | 52.5 |
| | Female | 4,142,300 | 53.7 | 6,364,800 | 52.4 |
| Over 65 | Male | 609,900 | 7.7 | 852,500 | 6.9 |
| | Female | 601,600 | 7.8 | 997,200 | 8.2 |
| Total | | 15,634,100 | | 24,592,400 | |

## That Famous Pipe Line

This is some of the latest news on the gas pipeline from Alberta to the East.

Gas may flow by 1956 and be in the east by 1958.

It now looks like a Crown company will build the 1200 mile section between Winnipeg and Toronto.

This section could be bought out by Trans Canada Pipe Line at any time during a 10 year period.

Export of 200 million cubic feet daily to Midwest U.S. and import of 90 million cubic feet of U.S. gas to Ontario is the heart of the plan. The approval of the Federal Power Commission in the U.S. is vital.

Most of the engineering plans are complete.

Some 2350 miles of line would be installed (only 100 miles longer than the South to North gas line of the Tennessee Gas Co. in the U.S.)

Alberta to Winnipeg section will be 34″ pipe.

Winnipeg to Kapuskasing, Ontario will be 30″ pipe.

Toronto to Montreal extension will consist of 24″ pipe.

Steel tonnage involved is around 625,000 tons.

The pipe line will cross railways 86 times, highways 162 times, major rivers or lakes 110 times, creeks or streams 240 times.

## PERSONALS

*James Pakenham*, a student member of the Quebec Chapter, has accepted the position of Chief Accountant with W. Rourke Limited, General Contractors. Mr. Pakenham was formerly with Canadian Arsenals Limited in Quebec, as a Methods-Time Measurement Analyst.

*John R. Griner, R.I.A.*, formerly of Stone & Webster Canada Limited, is now associated with Don Mills Developments Limited. Mr. Griner is a member of the Toronto Chapter.

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# *Books in Review . . .*

By George Moller, D.Jur., C.A., R.I.A.

## INTRODUCTION TO INCOME TAX LAW CANADA

*By Francis Eugene La Brie, B.A., LL.B., LL.M., D.Jur., with the assistance of Marcel Belanger, M.A., C.A., published by CCH Canadian Limited, Toronto and Montreal, B.P.* 371 *with Case Table and Topical Index—Price* $7.50.

The author, who for years has taught at the School of Law, University of Toronto, needs no introduction to those interested in taxation in Canada. His previous writings in this field proved him an expert and an authority in this special branch of law. His new work, according to the preface, is directed to the needs of teachers and students of income tax. The author hopes that it will stimulate the reader to further research and study.

Income tax law and practice are in so many ways based on accounting that it seems only natural that Professor La Brie has asked a chartered accountant to assist him in the presentation of some of the features in the text. Particularly, the chapter on "The Measurement of Business Income" with its comments on bad debt reserves and special reserve provisions, has been enriched by Mr. Belanger's contribution under the heading "The Accounting Treatment of Reserves", which will be particularly appreciated by lawyers studying the subject. The work follows pretty well the arrangement of the Income Tax Act up to Chapter Twelve, but Chapter Thirteen on dealing with income tax and the corporate entity presents a special treatise on this subject with reference to all sections of the Act which have a bearing on it. The last five chapters then again follow the arrangement of the Act. A complete case table will be very helpful to the lawyers but it seems rather doubtful whether accountants will derive too much practical value from the strictly legal references. As usual, the topical index is rather sketchy and the reader will often not find the subject in which he is interested under the first reference where he expects it to be listed.

The outlay of this new text book, which describes the law as it stands now, does not seem to indicate that it will be brought up to date after every change in the Act; its practical value would have been enhanced if the volume had contained a chapter on the use of tax services. It is the reviewer's opinion that the use of tax services is essential and that the novice in the science of taxation needs expert advice on when to refer to an income tax service and how to obtain the information he may require.

The presentation is clear. The sentences are short, which is particularly valuable in a presentation of income tax law based on an Act excelling in complicated and very often quite involved sentence construction. The examples which are distributed throughout the whole

text are well chosen and illustrate the more complicated features of the Act nicely to the student.

There is no doubt that the new work fills a need for a basic text book and only the future will show whether a text book which will not be brought up to date after each budget speech will be satisfactory for teaching purposes, in spite of the fact that a number of its examples and quotations must, by necessity, become dated in a short time.

Right now, the work is certainly a worth-while addition to the library of anyone interested in income tax in Canada.

## CORPORATE FINANCIAL POLICY

*By Harry G. Guthmann, C.P.A., Ph.D., and Herbert E. Dougall, Ph. D., Third Edition, published by Prentice-Hall, Inc., New York,* 1955-*B.P.* 723 *with a Selected Reference List of over* 40 *pages, and Index covering* 30 *Pages.*

This book is a thoroughgoing revision of a standard text on corporation finance.

The work covers the field of corporation finance in a most complete way in 32 chapters, stressing the management point of view and, although expounding principles and motives in detail, still clinging to the practical needs of enterprise. A brief review of the contents is provided by a look at the main chapter headings which, starting from the legal forms of business organization, cover the formation and control of the corporation, the corporation stock, the preferred stock and corporation bonds, factors determining the pattern of long-term financing, financial aspects of promotion, financing of established industrials, deal with public utility finance, railroad finance, investment banking, switching from there to security exchanges and markets, sale of securities by privileged subscription, employee and executive stock ownership. For the industrial accountant, the chapter on current financing and the budget will be of particular interest. Further chapters cover bank borrowing, trade credit and special financial institutions, intermediate financing, and lead then to the determination of net income and surplus, earnings retention and dividend policy, expansion and combination, mergers and consolidations, holding companies, refinancing and recapitalization, treatment for financial failure, and finally, reorganization of corporations, their dissolution and liquidation, with the end chapter devoted to the social aspects of corporation finance.

As pointed out in the preface, the examples, which are numerous, and the selected material listed after the last chapter, are intended to stimulate the thinking of the student and, in the reviewer's opinion, perhaps the practical businessman, who seeks information on topics which, in spite of the ample coverage the book provides, may deserve study.

Not many will read this standard work from cover to cover but even leafing through the book at random will reward the reader through the clear and complete presentation of the rather involved aspects of high finance.

It would be very informative if some Canadian teachers of the subject would provide tables substituting for those in the text which, of course, are based entirely on data applying to the United States, data collected on Canadian conditions, as for instance, the capital structure proportions of various types of industrial corporations (Table 14 on page 215).

The text is brought entirely up-to-date which is illustrated, for instance, by the reference to the restatement and revision of accounting research bulletins (Accounting Research Bulletin No. 43, 1953) on page 388, which source "suggests the exclusion from current assets of such items as cash restricted or earmarked for use other than current operation, such as sinking fund, receivables arising from unusual transactions and which are not expected to be collected within 12 months, and cash surrender value of life insurance." For the student of corporation finance, as well as for the finance officer faced with a problem, this book will be a rich source of well organized exhaustive information.

**ADVANCED COST COURSE LESSON NOTES**
**NOW AVAILABLE**

The new Correspondence Course lesson notes in Advanced Cost Accounting are now for sale at the following prices:

| | |
|---|---|
| **Members** | **$5.00 per set** |
| **Non-Members** | **$8.00 per set** |

—Completely revised by Mr. George W. Frank, M.B.A., C.P.A., graduate of McGill University and co-author of "Cost Accounting" by Matz, Curry and Frank.

—320 pages of useful information including Standard Costs, Budgeting, Direct Costs, etc. (for complete list of contents, see Editorial, this issue).

"We believe this study course and notes fully caters to an urgent need for extensive costing and budgetary knowledge. To our knowledge there is nothing available that approaches it in informativeness and usefulness to the accounting student or executive." (Ed.)

# *Accounting: A Tool For Production Planning . . .*

By G. F. ROSSETTIE,
*Supervisor of Inventory Forecast and Control*
*Corning Glass Works, Corning, N.Y.*

*Accounting techniques are playing an increasingly important role in production planning today, the author notes. Sound accounting methods are therefore indispensable to this important phase of operations.*

WITH the progressive development of various phases of production control in industry, we are impressed with the increasing contribution of accounting operations and accounting techniques in the refinement of production planning. In this paper we intend to review the function of production planning with direct and indirect consideration of the accounting aspects of the subject.

In the broad sense we might define production planning as the advance programming of production for maximum profit. In the narrow sense we can define production planning as a three-stage responsibility, as follows:

Preplanning—The preparation for manufacture of orders not yet received.

Scheduling—The production arrangement of firm orders ahead of manufacture.

Dispatching—The expedition of firm orders through the manufacturing processes.

A clear distinction among the three steps is not always discernible. The size and type of enterprise will largely determine the pattern of the production planning function in the organizational set-up. As the enterprise expands, however, it is safe to assume that the planning function will require more specialized assignment with increasing emphasis attached to the preplanning and cost operations.

## Planning Principles

An effective plan is a continuing projection into the future from a competent analysis of all relevant facts. As we proceed through the consideration of production planning techniques, accountants may observe the total dependence of planning on compiled, organized, and analyzed facts of accounting data. The need for factual data in planning, however, does not in itself demand voluminous and irrelevant detail. Planning as well as accounting reports must be policed for essential justification as well as coordinated utility. Report data should be organized on the "pyramidal" theory that information should originate at the base levels in such presentation that progressive summarization is possible up through all levels of responsibility. It is also axiomatic that compiled data must prove useful at the lowest level of preparation to prove of value in higher summarization.

Frivolous accumulation of information at random levels can evolve a confusing and costly parade of records, reports, and graphs. The most costly of these can be the ill-conceived, sterile graphs maintained often on the wrong scale, on the wrong pretext, and on the wrong wall. Like the foxtail on the hot-rod, these graphs might cost something but their net effect is only to distract attention from the road ahead.

Returning to the concept that production planning is dependent on adequate, timely, and organized accounting facts, the accountant can recognize his contribution to the following essentials:

Accounting data should originate at base accounting levels.

Accounting data should serve various groups (production, finance, and sales purposes).

Accounting data should be phrased in most intelligible common demoninator (dollars, pieces, pounds) to best serve general use and summarization.

Accounting data should be adaptable to modification in line with expected changes in requirements of a healthy and dynamic enterprise.

Forecasts supported by facts have come to supplant intuition in the complex industrial economy of today. Management now takes a dim view of the wizard who prided himself on his ability to "fly by the seat of his pants." Facts are now demanded as the essential for obtaining the approval of all functional groups (sales, production, finance) exercising controls on every day planning of production. Accounting facts fit this need.

After marshalling the necessary factual accounting data needed, we should be ready to proceed with the planning of production. However, at this point we may stumble over a surprisingly small obstacle. We may have forgotten to acquaint ourselves with the fundamental purpose of the enterprise. The basic goal of all free enterprise is not vague. The prime purpose is to *maximize the return on investment*, with a proper regard for the long-term health as well as the short-term profit in the venture. This goal does not seem unreasonable nor incomprehensible.

At this point the accountant becomes a factor. In a dynamic business the production planner and cost accountant occupy a critical position in the operation of the enterprise. Planning requires business men first and perfectionists last. Planning cannot be organized as an absolute and final technique. Industry has no place in the planning of production for confirmed idealists or regimentalists. We must insure that all planning operations have realistic, business objectives. The cost accountant is the realist who can supply the planner with objective data.

Considerable promise is held forth in further scientific approaches to the complex problems of production control. Operations research

techniques should accelerate the control of some planning operations through greater use of the accountant's electronic accounting equipment.

However, we must observe that all the accomplishments to date deal with the processing and analysis of historical accounting facts. But planning involves the extension of probabilities into the future. Therefore, we may avail ourselves of all possible shortcuts and refinements in organizing our facts; then as businessmen we must proceed with the most profit-promising plan based on available accounting facts.

In order that production planning costs do not get out of justifiable proportion, a few basic accounting checks should be observed:

All reports must be justified and periodically reviewed for value and conformity.

The basic purpose of business operations must be continually observed (maximum return on investment).

The EXCEPTION PRINCIPLE must be applied to limit planning costs in those control areas where resulting gain would prove negligible.

At this point we might clarify the reference to the Exception Principle by noting that in most industrial enterprises there is a basic pattern showing that a preponderant portion of production is directed to a small percentage of the products sold. On this basis it is possible to devote nearly all production control efforts to the major-volume items while restricting the minor items to arbitrary manufacturing cycles of long-term but negligible carrying costs.

We may also note that in the principles of production planning there are four basic objectives:

(1) Stabilization of employment
(2) Adequate service to customers
(3) Most economical use of inventories
(4) Most economical use of manufacturing capacities

Following the above considerations of production planning principles, we can visualize no fixed planning technique which is uniformly applicable to all industries. Each firm is faced with some unique problems of market, volume, competition, materials, and labour. We must employ the best accounting techniques, equipment, and personnel to fashion the planning control system which will yield the maximum profit under the specific set of conditions under which the plant operates. Keeping the basic objectives of planning in mind, and aware of the changing cost factors in the nature of the production problems ahead, we can proceed with the planning operations. Production Planning may be re-defined as the function of selecting the most profit-promising conciliation of opposing factors, involving judicious analysis of all relevant accounting information.

## Production Planning Practices

The first problem in planning production is to determine what and how much product is to be sold. Some firms establish an arbitrary quota of product to be merchandised during a specific interval. The major group of industrial enterprises, however, are faced with the problem of forecasting what their customers are going to need—customers who are not the ultimate retail consumers. We will confine our considerations to the latter group in discussing the forecasting operation.

The sales department responsible for direct contact with the specific market, or portion thereof, must participate in determining the sales forecast. The relevant facts to be considered in setting sales estimates include:

Accounting statistics of past sales
Routine surveys of stocks in the field
Comparison of related economic statistics
Long-term trend analyses of market
Latest customer and competitive reports provided

The method of maintaining sales forecasts for an extended interval ahead varies with each company and business. One effective system has been evolved wherein monthly committee meetings are held in which the several sales managers sit down with representatives of production control groups for an examination of current sales and inventory analyses. For the purpose of holding these meetings to the shortest possible duration, the production control staff identify those lines of product where orders are beginning to deviate beyond acceptable tolerance from previous forecast rate of demand. The accounting staff at the same time can identify the items in which cost exceeds the selling price, together with the volume and the loss to date.

We recognize that final approval and acceptance of sales forecasts must be tempered by: judicious evaluation of accounting data; a recognition of the normal optimism of salesmen; and the random instability of some lines of product. It is an accounting phase in production control to continuously compare sales forecast detail with accounting data and to bring progressively sharper cost and sales analysis into counsel each month with the sales representatives.

The technique of recording and distributing approved sales forecast information can be as simple or detailed as the circumstances warrant. In companies where sales and production centres are either highly diversified, or extensive and complex, it has been found expedient to employ punched-card accounting equipment for the preparation and distribution of sales estimate detail to proper control offices. (See Exhibit I). It is possible to use the same punched cards showing the latest sales forecast detail for confirmation of estimates to the sales managers, as well as to present the expected requirements in quantity and value each production centre in the plant. Accountants can recog-

nize the time and economy derived from the use of punched cards in forecasting operations where circumstances warrant. The specific nature of the enterprise will determine the detail required in preparing and distributing sales and cost estimates for the various production centres of the company.

After establishing long-term sales forecasts in detail by plant and by manufacturing cost centre within the plant, we may proceed with the review of extended cost and production rate of output. We can set production bogies, or quotas, only after determination of production and cost centres. These manufacturing centres must be clearly established in terms of measurable capacity. The measurable capacity of each centre must also be controllable. The cost accounting offices are vitally concerned in the organization of production centres in manufacturing departments and are equipped to define the grouping most effective for production control as well as cost control. In some instances it is the capacity of machines and their basic similarities that warrant grouping into an integral centre; in others it may prove to be specialized worker skills. We cannot set long-term production output quotas to accomplish the objectives of production control without a clear definition of the basic limiting factors of capacities to be controlled and assurance that accounting performance data can be compiled through proper control.

The essentials considered in setting extended bogies or production quotas for a given manufacturing centre are:

1. The estimated sales per month for six (?) months ahead,
2. The order backlog for the centre.
3. The mix of product to be made,
4. Provision for any necessary downtime, vacation allowance, etc.

Exhibit II shows an example of a routine form for determining specific long-term production quotas. The form is not important but the fundamental objective of setting a rate of output that will yield stable employment in addition to meeting all other responsibilities of production and cost control is vital.

The essential value of employing production bogies or quotas lies in the cost reduction and profit resulting from the elimination of fluctuations in the labour force, and the proper use of production facilities as well as the intelligent use of inventories.

After organizing production and cost centres and setting up a continuing long-term plan for capacities and inventory control, the next phase of production control becomes the routine of scheduling and dispatching.

### Scheduling Practices

After long-term production and inventory plans are established in line with good cost control objectives, the routine of scheduling can proceed with reasonable expectation of success. The first step in scheduling is to organize the essential tools for the job.

## OUTPUT BOGIE

Reissued: .....

Line of Product: ..... Basis: .....

Work Centre: ..... Analysis by: .....

Factory: ..... Div: ..... Quota projection interval: .....

| | QTR..... | | | | QTR..... | | | | QTR | QTR |
|---|---|---|---|---|---|---|---|---|---|---|
| | Pd | Pd | Pd | (Pd) | Pd | Pd | Pd | (Pd) | | |
| | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Sales Dept. Forecast of shipments ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Planning or—adjustment*, distributed ahead .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Quota for balancing stocks**, distributed ahead .. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Quota for planned vacations, etc. distributed ahead ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Net Totals ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Final output pattern*** recommended ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

* Note
Going rate of actual orders during preceding ..... periods.
.....

** Note
Mfrg. backlog as of close of latest period .....
Available stock as of close of latest period .....

*** Note
Reflects optimum combination of various line requirements within centre as well as most profitable plan for machine and personnel utilization consistent with economical run lengths.

EXHIBIT II (a)

## FORECASTING PERFORMANCE SCHEDULE

| PER | PERIOD PROD. | PERIOD SHIPMENTS | STOCK BALANCE | AVAILABLE STOCK SHORT | AVAILABLE STOCK OVER | ORDERS ENTERED | PROJECTION OF SHIPPING DEMAND FOR YEAR STARTING WITH PERIOD AT LEFT 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | YEAR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | $ | | | | | $ | | | | | | | | | | | | | |
| 2 | | $ | | | | | $ | | | | | | | | | | | | | |
| 3 | | $ | | | | | $ | | | | | | | | | | | | | |
| 4 | | $ | | | | | $ | | | | | | | | | | | | | |
| 5 | | $ | | | | | $ | | | | | | | | | | | | | |
| 6 | | $ | | | | | $ | | | | | | | | | | | | | |
| 7 | | $ | | | | | $ | | | | | | | | | | | | | |
| 8 | | $ | | | | | $ | | | | | | | | | | | | | |
| 9 | | $ | | | | | $ | | | | | | | | | | | | | |
| 10 | | $ | | | | | $ | | | | | | | | | | | | | |
| 11 | | $ | | | | | $ | | | | | | | | | | | | | |
| 12 | | $ | | | | | $ | | | | | | | | | | | | | |
| 13 | | $ | | | | | $ | | | | | | | | | | | | | |

BASIS: _____ YEAR: _____

LINE: _____

FACTORY: _____ CONTROL NO: _____

THIS LINE INCORPORATES:

EXHIBIT II (b)

1. *Production Capacities*

In the routine evaluation of centre output-potentials the cost accounting group in the plant is the usual source of accumulating this information. It is not out of order, either, to expect the accounting group to establish cost centres in identical alignment with production control requirements, thereby insuring a direct and most valuable contribution to the mutual needs of both for collecting performance data. (See Exhibit III).

2. *Routing Data*

The industrial engineering section must maintain records of production operations, with respective time elements, for each product to provide unit pricing and cost standards. The route sheets so developed can prove invaluable to the production scheduling group for evaluating new orders and loading them against specified centre capacities. Here again it is essential that the common interest and economy is served by definition of centre, acceptable to both production control and the cost department.

The production scheduling group must evaluate new orders in accordance with current routing forms and in terms of current production and cost standards if they are to avail themselves of routine accounting performance reports in relieving their production centre backlogs accurately.

3. *Economical-lot Studies and Costs*

An engineering or cost accounting group is usually responsible for determining the break-even point and the optimum quantity range of output for each item, as well as to develop the best production method. The production scheduling group in the plant must maintain close relations with the engineering group to secure most accurate economical-lot information, to insure minimum product costs consistent with adequate customer service. The scheduling group in this area solicits the specialized assistance of the accounting section in "pricing" short-term production cycles and set-up costs as well as long-term production alternatives.

After organizing the essential tools for production scheduling, it is possible to get on with the programming of production orders in each work-centre in terms of quantity and time. Where a substantial percentage of production output is invested in a major number of stock items, it is possible to mechanize order and output reports for scheduling control. It is possible, through stock control and order and output reports prepared via punched cards, to furnish the scheduling offices with weekly control detail information by centre, line-of-product sub-totals, depletion sequences, etc. (Note detailed Exhibits IV and V).

At this point the essential operation in scheduling is to be performed. That is the function of organizing the load of work ahead of

each centre. Each detailed, itemized schedule plotted ahead of each work centre must include in proper and committed sequence:

1. All special orders not yet in production.
2. Stock replenishment requirements for a full cycle ahead.
3. Parts replenishment requirements for a full cycle ahead.

The completed schedule ahead of each centre should prove compatible with stipulated delivery, with inventory control limits, and in harmony with the long-range output quotas established in the planning and cost function.

In the scheduling operation it is necessary to inject realistic hedges against capacity disruptions and excessive losses. Unpredictable elements, such as excessive absenteeism, deviation from standards, etc., must be given recognition in the schedule as indicated in accounting performance reports and scheduling experience.

Where major production and cost centres have been clearly defined, it is often most effective to install scheduling boards and devices which facilitate continuous adjustment of load-ahead detail as day-to-day developments warrant. These "gimmicks", which permit easy expansion, contraction, and injection of emergency orders into the load-ahead board, have proven of considerable value but do not in themselves insure accurate or efficient control.

Files should be maintained in the scheduling office for advance review of promise delivery dates. When circumstances indicate a failure pending, immediate repromise should be forwarded to the customer of belated delivery *before the fact.* This courtesy is of major importance, particularly in those situations where the customer has scheduled the material for fabrication into his own production lines.

As a final step in the scheduling operation it is good housekeeping to maintain an "old order follow-up" on all outstanding orders. Old orders will creep into any scheduling operation as a result of engineering negotiation, customer request, and unusual production problems. It is good practice, therefore, to maintain a routine campaign against old orders to insure efficient service and to identify any laxity which may have crept into the scheduling operations.

### Dispatching Practices

The dispatching function is embodied in preference control "out on the floor".

Usually on a weekly basis the production foremen meet with the scheduling personnel to discuss the detailed work sheets for the pending week as submitted by the schedulers. In this discussion the foremen inject technical advice and directly or tacitly indicate their approval of the work sheets.

(Continued on Page 374)

NOTE: ALL VALUES AND QUANTITIES IN THOUSANDS, EXCEPT QUANTITIES INDICATED IN 100'S IN DESCRIPTION OF LINE

## SHIPPING

SALES DEPT.

| | PLANT | CENTER | DESCRIPTION OF LINE | DEPT. | GLASS | CLASS | YEAR DOLLARS |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

FORM T59

## BLOWING

FROM - MACHINE ACCOUNTING DEPT.

| CLASS AND ARTICLE | GLASS | BLOW ROOM DEPT. | POT OR TANK | PIECES MADE | | PIECES |
|---|---|---|---|---|---|---|
| | | | | ACTUAL | STANDARD | ACTUAL |
| | | | | | | |
| | | | | | | |

NOTE: ASTERISK DENOTES 1ST WEEK BELOW 8 WEEK SUPPLY.

## WEEKLY STOCK

TO:—

FROM:—TABULATING DEPT. SUBJECT

| LINE | DESCRIPTION | CAT. NO. | SIZE | CODE | GLASS |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

## WEEKLY OUTPUT

TO: PLANT

FROM: TABULATING DEPT. CATEGORY

| METHOD | LINE OF PRODUCT | DESCRIPTION OF LINE | CAT. NO. | SIZE | ARTICLE CODE | GLASS CODE | MFG. UNIT |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

HIPPING

## BROADLOAD

FORM V-II

**EXHIBIT 1**

PLANT _____ PERIOD _____ THRU PERIOD _____

| YEAR DOLLARS | CURRENT TWO QUARTERS IN PERIOD QUANTITIES | | | | | | QUARTER | QUARTER | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| | PD | PD | PD | PD | PD | PD | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

**EXHIBIT 3**

OWING TION REPORT

PERIOD _____

| PIECE ED | | HOURS | | LABOR AMOUNT | |
|---|---|---|---|---|---|
| ACTUAL ARD | | ACTUAL | STANDARD | ACTUAL | STANDARD |
| | | | | | |
| | | | | | |
| | | | | | |

STOCK EPORT

**EXHIBIT 4**

FORM C-43

NOTE: #2 BELOW INDICATES ITEMS WITH MORE THAN TWO PERIOD USAGE

ISSUED _____

WEEK ENDING _____

| ASS | PERIOD USAGE | AVAIL. QUAN. | PLUS AVAILABLE TOTALS | #2 | | ACTUAL QUAN. | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

LY O UTPUT REPORT

**EXHIBIT 5**

| BEGINNING AVAILABLE REFERENCE CODE |
|---|
| 1 OUT OF STOCK |
| 2 LESS THAN 2 PERIODS SUPPLY |
| 3 MORE THAN 2 PERIODS SUPPLY |

ISSUED _____

WEEK ENDING _____

| + ENDING | 2 PERIOD RATE OF USE | — ENDING AVAIL. | WEEKLY RECEIPTS | WEEKLY ORDERS | BEGIN. STATUS | REMARKS |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

(Continued from Page 371)

It then becomes the dispatching job to expedite the proper items through the various production lines, resolving preference problems when production upsets occur and insuring that all tools, jigs, molds, route sheets, specifications, and supplies are at the right place at the right time.

In his direct contact with the production operations the dispatcher also represents the scheduling function in relaying short-term production information and aids accounting in cross-checking daily time-cost data.

The net efficiency of the scheduling function often depends directly on the effectiveness of the dispatching force. We may also note that the dispatching operation is not totally complete until the ware is through the shipping area and on its way to the customer.

### Conclusion

In summing up our discussion of Accounting—A Tool for Production Planning, we can note the increasingly essential requirement of sound accounting techniques in the planning operations in industry.

The intrinsic problem of defining production centres to conform with cost centres can be solved only with the cooperation of the accountant. Good accounting practices incorporated into the planning function do much to insure the most effective analysis of accounting facts bearing on the most profitable utilization of production capacities and control of inventories.

In the consideration of planning operations we did not include direct discussion of inventory management. However, we have inferred proper inventory turnover control when we develop the combination of economical-lot production joined with long-range production plans set to provide employment stability through cost and production control.

In closing, may we offer the general observation that production planning is fundamentally a continuous control program embodying advance conciliation of sales and production objectives for maximum and long-term profit.

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### FOR FURTHER READING

PRACTICAL TECHNIQUES OF FORECASTING, PLANNING AND CONTROL, American Management Association Manufacturing Series No. 216.

PRODUCTION PLANNING AND INVENTORY CONTROL FOR MARKET MAINTENANCE AND PENETRATION, By Dan H. Bar, N.A.C.A. Bulletin, October, 1949.

INTERLOCKING THE SALES FORECAST WITH PRODUCTION PLANNING, By David M. Rush, N.A.C.A. Bulletin, January 15th, 1948.

# *Control of Marketing Costs . . .*

By Arthur P. Felton
*Senior Associate*
*Bruce Payne and Associates, Inc*

*In this Article, the author tells how to reduce marketing costs. As the day of hit-or-miss marketing methods gives way to a more scientific approach, sales planning and effort can be redirected to obtain the maximum profit.*

THE marketing costs of almost any company can be reduced ten to twenty percent.

Water can be squeezed out of any marketing operation today. In fact, there is relatively more opportunity to reduce costs in the marketing area than there is in production. For the past twenty-five years, particularly during and shortly after World War II, the tremendous pressure for increased output diverted the attention of management toward the problem of greater and greater production. Today, management is faced with the problem of marketing this expanded productive capacity. In order to move the greater amount of products, better and lower cost sales methods must be used.

One development is certain—companies will either have to give more value for the same price, or the same value for less money. Profit margins will be squeezed again, between lower prices and increased marketing costs, to get business. Lower production costs resulting from new equipment expenditures should tend to relieve the profit squeeze to a small extent, but attention must also be focused on the manufacturer's marketing costs. Marketing will expand in importance and can mean the difference between profit and loss, depending upon its effectiveness.

### The Scientific Method Comes of Age

The average executive usually thinks of marketing cost control as a process of setting up a budget, comparing actual expenses with the budget, then hacking away at the various elements of expense which exceed the budget. This method of attack may do more harm than good if the reductions made weaken selling pressures or curtail required services, which weakens sales volume. In this case, unit costs may increase instead of becoming lower. The manufacturer should not be basically interested in limiting his sales expenditures to a certain number of dollars, or in forcing these expenses into preconceived ratios of costs per sales dollar. He should be concerned instead with getting the greatest effectiveness from his marketing operation to produce the lowest total unit cost and maximum profits.

There is an approach that your company can adopt. It is an approach that has been tested over the centuries by the scientists and modified by practical business men. This is the Scientific Method. Even this scientific method is not in itself a rigid, concise formula; but

it is rather a framework to guide the programme along the path to solution.

To many business men the connotation of Engineer or Scientific is that of cold, unfeeling, highly academic, and unimaginative figures or statistics of little *practical* use in the sales area. In marketing we say, "We are dealing primarily with people, their likes and dislikes, their actions and reactions, and their emotions. They cannot be entirely grooved, grouped, classified, or completely predicted."

Certainly allowances must be made for these unscientific factors. On the other hand, the intuition, the perception, and the "feel for people" that is claimed to be the all-important requirement with sales personnel needs reinforcing too. The modern, thoughtful business executive of today realizes the necessity for a more orderly, scientific, and factual approach to marketing problems, whether they be direct cost cutting or purely promotional in nature.

This growing realization of the need for a more factual approach to marketing was well expressed by Don G. Mitchell, now Chairman of the Board of Directors of Sylvania Electric Product, when he said:

> "Today belongs to the production man. Tomorrow will belong to the marketing executive. His task will be gigantic, his responsibility fearful. What he must do, he must do without the united support and single-mindedness of a people at war. He must do it within the competitive framework of the very social and economic structure he is seeking to preserve. . . .
> "It is twilight for the hoopla and the rah-rah. Marketing is going to be less glamorous in its approach, but a lot earthier and more effective. We will learn to rely less on intuition, more on testing; less on shouting, more on psychology; less on hunches, more on measurement. In short, we are as individuals and as a system, going to inculcate marketing management with the scientific attitude." (*)

### Sizing-up the Status Quo

To make certain of meeting this marketing challenge, the manufacturer should undertake two basic studies:

First, he should make a step-by-step appraisal of his sales-management programme, comparing his methods and results against the latest market and industry trends. Within a relatively short period of time, markets have shifted, buying habits have changed, new selling techniques have been created, new raw materials, new products, and new industries have been developed—all have influenced potential markets.

(*) Excerpt from a speech made at the opening of the January, 1944 Marketing Conference of the American Management Association.

Out of this analysis should come an improved sales plan which should increase sales volume, reduce unit costs, and establish a new set of realistic sales-budget figures.

The second study he should make is a distribution cost analysis to determine the areas of unprofitable sales in order that action may be taken to make them more profitable. Which customers are costing the company money? It is true of many businesses that the cost of some sales is disproportionate to the revenue gained from those sales. Generally, about 80% of the company's customers account for only 20% of its volume. And it is unfortunate that sales costs too frequently follow the number of customers sold rather than the sales dollars received.

### Five Steps to the Sales Plan

The sales-management appraisal would involve the following steps:

1. *The Product*

The marketing function is always centered around the product.

Industrial products are sold differently than consumer goods. "Impulse" type items require a different sales plan than items for which you "shop."

Products requiring service present a different marketing problem than those which do not.

Each product should be studied for its sales features or advantages over competition such as price, design, appearance, wearability, economy of operation—just to mention a few. Too often products are put on the market with too little to sell.

2. *The Market*

The next step is to determine where, when, and how much of the product the market buys.

This information is the foundation of the sales plan. Based upon the principle that every company is entitled to at least its share of the market, this data is used as the standard or yardstick of company sales performance. It reveals which salesmen and sales territories within the company are weak. It shows which territories are improperly determined and poorly planned for; and it shows where the company is losing sales by not having coverage. It provides the basis for balanced territorial layouts, salesmen required, sales standards, and budgets. In other words, the market—rather than past performance records—becomes the gauge of sales measurement.

Recently we made a market survey for a successful, medium-sized company, manufacturing and selling a consumer product. We found that the company was doing the best job in the poorest markets, and the poorest job in the best markets. As soon as this fact was pointed out, the sales effort was redirected. After a year's operation, sales volume increased 10% while the industry dropped about 20%.

3. *The Channels of Distribution*

Having analyzed the market for the product, you should next select the most effective channels of distribution. Should the company sell direct or go through wholesalers? Should it employ its own salesmen or manufacturer's agents? Would a combination of both be the most economical? If the product is distributed through retail outlets, have all types of outlets been considered?

A household-product manufacturer used plumbing supply houses exclusively for its channel of distribution until a market analysis showed that this exclusive policy did not benefit them. Lumber yards and building-supply houses held greater sales potential than the plumbing-supply houses, and, therefore, should have been used as distributors, also.

A shoe manufacturer had always sold the "Family Shoe Store" exclusively. A survey determined that this type of outlet amounted to only 35% of the distribution potential. Five other types of retail outlets did the bulk of the business and offered the greatest new-business opportunity.

4. *The Promotions*

Once the distribution pipe lines are established, the next consideration is the promotions used for pumping products through these lines. Sales manuals, displays, how-to-sell guides, slides, movies and advertising (both national and local) are all techniques for aiding sales. Promotion is expensive and, if improperly applied, can be a costly loss. However, telling the right story in the right way at the right time can increase volume and decrease costs.

We found one client company advertising its brand name in national magazines when it wasn't even represented nationally. Also, its promotional circulars were sent to customers with absolutely no salesman follow-through. Promotion dollars were wasted until representation and follow-through were completely developed.

5. *The Sales Controls*

Having established the sales plan, sales controls should be used to back up the plan. Salesmen's standards are needed not only to get sales volume but to do whatever the complete sales job calls for—opening new accounts, increasing order sizes, pushing more profitable items.

Incentives in the salesmen's compensation plan should be employed to aid management in accomplishing its sales objectives. Sales reporting should record necessary information for customer cost analysis. Salesmen should be tested for their aptitudes to sell. Training manuals and programmes should be written to build stronger salesmen.

As important as controls is the need for the sales manager to be freed to spend a good portion of his time in the field to assist the sales force and get first-hand information from the firing-line.

## Who, Where and What to Sell

After the realignment of the company's marketing sights through an over-all sales-management appraisal, the next step should be a marketing cost-control plan that can be used by sales management for determining the relative profitability of the customers, the products, and the territories. Management, with this information, can answer questions regarding:

1. Simplifying the line.
2. Repackaging the product.
3. Changing the price.
4. Charging for special services.
5. Charging for small orders below a minimum size.
6. Deciding on quantity discounts.

Most companies have sales-volume figures broken down by customers, products, territories, and orders; but few have reliable costs for these individual units that make up the company's sales volume.

The most widely used method for distributing marketing costs to these units is to average them over all units as a percentage of sales. This kind of cost accounting obscures the very differences which management needs to know. For example, one company selling two products priced at $200 and $600 allocated freight costs to these products on the basis of relative sales value. Actually, the freight rates on the two items were the same, so the $600 product absorbed three times as much freight as the $200 product. When costed correctly, sales of the lower-priced item revealed that it was unprofitable to ship into distant territories, whereas the higher-priced product had greater profit potential than was realized.

When manufacturers' marketing expenses and revenues are analyzed to uncover the unprofitable customers, management is able to reduce costs and increase profits by taking appropriate action in regard to the unprofitable sales. At times it is necessary to eliminate the unprofitable customers.

For example, one company found that having 68% of its accounts bring in only 10% of the business was unprofitable. Most of these accounts were dropped. As a result, sales increased 76% through redirected and more effective use of the selling effort. Marketing expenses were cut in half. In one year, a net loss of 2.9% of sales was reversed to a net profit of 15% of sales.

Another company did not drop its unprofitable customers but turned them into profitable ones by having salesmen call less frequently and by telephone. Mail-order solicitation to this type of customer has been used successfully. Turning over unprofitable outlying territories to dealers instead of serving them directly has converted these small customers into profitable ones.

A company is always reaching for more business, extending its sales to the point of minimum return. Much unproductive time is spent

travelling into an area that is closer to another manufacturer's source. The competition can often give better and cheaper service and hence has the bulk of that customer's business. In a territorial sales-cost analysis, one manufacturer found that 28% of the number of towns covered were unprofitable. They were either eliminated or sales service was curtailed. Forty percent of the salesmen were eliminated, with a corresponding doubling of business by intensifying sales in the profitable areas. The remaining salesmen earned better incomes through the encouragement of incentives.

Another company having 39 products in its line made a product-cost analysis to show that 18 of these were unprofitable. These were eliminated, along with the losses. With fewer products, other cost savings and advantages were achieved. Sales increased almost 400%, and distribution expenses were reduced about 45%.

These examples show what can be done by having adequate distribution-cost records from which sales-cost analyses can be made.

### Summary

In summary, it is certain that management will be faced with costlier, more far-reaching marketing decisions this year than in the past. Guessing, intuition, or judgments based on past experience alone will not be enough. An appraisal of the selling job should be made in the light of the latest marketing techniques and information.

Then, the sales management appraisal should involve:

1. The product.
2. The market.
3. The channels of distribution.
4. The promotions.
5. The sales controls.

This point is based primarily upon sales standards—standards of performance.

Control centers about people with responsibility—to get things done.

In addition, a thorough profit analysis should be made—by customers, territories, products and orders—to point out the weak spots in which to take action.

The combination of increased volume and marketing-cost reduction can be achieved. Greater profit is possible for every company.

## FOR FURTHER READING

THE MARKETING DEPARTMENT, By Frank M. Parker, American Management Association Manufacturing Series No. 217.

MARKETING COST CONTROL, By Paul Jeffrey, Cost and Management, September, 1955.

THE MARKETING EFFORT, By J. S. Hawley, American Management Series No. 173.

COST CONTROL FOR MARKETING OPERATION—GENERAL CONSIDERATIONS, N.A.C.A. Bulletin, April, 1954.

# *Budgeting in a Small Hard Goods Manufacturing Business . . .*

By A. H. SEED,
*Secretary and Controller,*
*Superior Separator Company, Hopkins, Minn.*

*Budgets are as practical in small businesses as they are in large ones, urges the author. Indeed, with certain modifications of technique, they may be even more effective in the small business. He outlines a step-by-step formula whereby this result may be obtained.*

MR. SMALL BUSINESS MAN—budgets are for you! Mr. Big Business Man and his technical staffs may have pioneered budget techniques, but you can exploit them to assure your important and continued place in our free enterprise system. You can budget faster, broader, and with more "feel" for the operation than can your Big Business cousins.

The basic business philosophy that lies behind budgeting must, of course, be accepted in any organization before a budget will be of any use. This philosophy is that profits in relation to investment are a fundamental objective, and they just don't happen to come along; planning is essential. The financial aspects of this planning are crystallized in the form of budgets. These budgets are built up from the use of standard costs, sales forecasts, a production schedule, and a projection of expenditures. In small companies, adoption of this philosophy depends largely on the efforts of the top man in the organization.

## Special Characteristics of the Small Business

Small businesses often have characteristics which require a special approach to budgeting:

1. The top man is often personally familiar with each individual and aspect of his business.
2. Changes may occur more rapidly to take care of new customers, production and paper work requirements.
3. Specialists can often not be afforded. Each man must handle many functions.
4. One office manager or accountant with the help of one or two girls is often responsible for the entire financial end of the business.

Although these differences do not make budgeting any less practical in a small business, the requirements of budgeting must be tailored to fit the situation.

## Tailoring Budgets to the Small Business

Budgets must be inexpensive. They must replace the use of many historical figures and existing accounting techniques. To do this, they must serve many purposes. It is common knowledge that they can be

used as a yardstick for control and as a basis for forecasting but, in addition, they must have other profitable uses. For instance, they may serve as a basis for preplanning the form of financial records, statements and reports; for analysing the profit margin in each product; for developing formulas to compute selling prices on new products, and for pricing and valuing inventories.

To be inexpensive, budgets and budget reports must be easy to prepare. The number of reports and the number of items shown on each report must be held to an irreducible minimum. Unnecessary calculating, writing, copying, typing, reproducing and pieces of paper must be eliminated. Pencilled reports on accounting work sheets may not win blue ribbons for beauty, but they can often most profitably serve the needs of the management of a small business.

Budgets and budget reports must be simple and easy to understand. Big words, complicated formulas and unnecessary detail must be ruthlessly weeded out. Each budget must be considered as an operating tool and must make sense to the individual who is not an accountant.

Budgets and budget reports must be kept current. In any business, there are few pieces of paper less useful than last year's budget, nor reports less interesting than the one for the month before last.

Certain detailed reports which are necessary in the more impersonal atmosphere of a larger manufacturing concern, are often not needed in a small business because of the close touch of the management group with many of the individual problems involved. In a small business, the top man often signs all the cheques and approves the entire payroll. Because of this familiarity and the smaller proportions of each element of cost, the emphasis of a budget in a small company often leans more heavily on planning profits than on cost control.

"Planning profits" is a high-sounding phrase—after all, most business men spend a lion's share of their time figuring out how to make their businesses more profitable. But in this case we are considering attaching dollar and cent values to plans so that each plan may be more objectively weighed and measured.

For instance, are the selling prices of your new products based on your anticipated costs *tomorrow* so that after taking into consideration *tomorrow's* competition, you can expect a maximum return on your investment over the long pull? Based on today's sales outlook, do you know when you will have to add new men or let old men go? How much unused capacity do you have and at what prices will you be able to solicit new business in order to keep your shop most profitably busy? How much business will you need each month of next year in order to break even? If yours is a highly seasonal business, are you able to give your banker some concrete estimates of how much money you will need to borrow from him next year and when you will be able to pay him back?

There are no magic answers to the questions. The function of budgeting in profit planning can only be to assign values to each of the individual factors involved so that the probable outcome will be based on a realistic review of *all* the elements that affect the financial end of the business.

This approach, of course, is equally important in a large business, but so often the small business man throws up his hands at the thought of measuring his prospects in such concrete terms. He feels that systematic financial planning is impractical in his operation. This attitude doesn't make sense. The financial resources in the small business are usually more limited than those of the bigger fellow. This not only leaves the small business man with a smaller margin of error but dramatizes the need for more careful planning. In addition, because of his close touch with his business, the small business man may be able to better evaluate each of the factors involved and consequently do a better job of budgeting.

Having considered these requirements, how then should the technical aspects of the problem be approached? The steps that were followed by one small manufacturer are described below. This specific example is actually an autonomous division of a larger manufacturing organization. However, this business is run by a General Manager, has its own factory facilities, sales organization, engineering staff and administrative and accounting function. Sixty-eight people who annually manufacture, sell and service about one million dollars worth of grain and seed-processing machinery are employed by this organization. One accountant, one full-time girl and one part-time girl handle all of the accounting, billing, collections, payrolls and cost work.

## Building the Framework

Since effective budgeting depends on good accounting, the starting point was to overhaul the accounting system. This overhaul was intended to provide the mechanics so that the key figures needed in each area of the business would be readily available.

The form of each accounting report including the balance sheet and profit and loss statement was predetermined. These reports were organized to have all key information shown presented in a consistent manner with a minimum of duplication. Certain detailed accounting or statistical information is reported regularly and other information is presented on work sheets or on subsidiary schedules.

A chart of accounts was established. The chart was arranged to make account captions and their sequence correspond with the requirements of the statements and reports. Account classifications have been assigned in such a manner that actual manufacturing costs are broken down between their standard component and variances.

## Developing Standards

Standard costs have been widely recognized as a basic tool of budgeting. Of equal importance in a small business, they are often an effective means of cutting the cost of paperwork. Not only do standards provide a bench mark for controlling expenditures for direct labour, overhead and material, but once established, they may be used as a consistent unit of measure for accounting for additions and removals from inventory. With the use of standards, it is not necessary to keep track of the dollar value of material used for each job lot or order, nor is it necessary to compile total actual cost in order to assign a value to each removal from inventory and charge to cost of goods sold. It was because of these dual benefits that standards were developed as one of the first steps for budgeting in this particular business.

### EXHIBIT 1

Small Hard Goods Manufacturing Company
Determination of Standard Manufacturing Cost Per Hour
(Hypothetical figures are shown)

| | Men | Hours | Rate | Predicted Annual Cost |
|---|---|---|---|---|
| Direct labour | 80% of 40 | 61,440 | $1.80 per hr. | $110,592 |
| Indirect labour | | | | |
| Set up | 10% of 40 | 7,680 | $1.80 per hr. | $13,824 |
| Maintenance | 5% of 40 | 3,840 | 1.80 | 6,912 |
| Rework and miscellaneous | 5% of 40 | 3,840 | 1.80 | 6,912 |
| Inspection | 1 | 1,920 | 2.00 | 3,840 |
| Material handling | 2 | 3,840 | 1.40 | 5,376 |
| Painting | 1 | 1,920 | 1.75 | 3,360 |
| Crating | 2 | 3,840 | 1.50 | 5,760 |
| Holiday and vacation pay | | | 6.2% above | 9,708 |
| Supervision and office salaries | 4 | | various | 18,000 |
| Total indirect labour | | | | $73,692 |
| Operating supplies and expense | | | | |
| Painting supplies | | | 2% dir. lab. | $ 2,212 |
| Crating supplies | | | 5% | 5,530 |
| General supplies | | | 10% | 11,059 |
| Maintenance | | | 5% | 5,530 |
| Power | | | 3% | 3,318 |
| Scrap | | | 2% | 2,212 |
| Payroll taxes and insurance | | | 4% payroll | 6,983 |
| Total operating supplies and expense | | | | $36,844 |
| Management costs | | | | |
| General insurance | | | $100 per mo. | $ 1,200 |
| Property taxes | | | 200 | 2,400 |
| Depreciation | | | 1000 | 12,000 |
| Building occupancy costs | | | 2500 | 30,000 |
| Total cost of operation | | | $3800 per mo. | $45,600 |
| Total cost of operation | | | | $266,728 |
| Cost of operation per direct labour hour | | | | |
| Direct labour | | | $1.80 | |
| Indirect labour | | | 1.20 | |
| Operating supplies and expense | | | .60 | |
| Management costs | | | .74 | |
| Total cost per hour | | | $4.34 | |

A normal manufacturing cost per hour is estimated each year. (Exhibit 1) The number of hours of direct labour that may be expected are determined from the Shop Superintendent's estimate of the average number of people that he plans to have working on machines during the year. The Shop Superintendent also estimates the corresponding number of people that are needed in each indirect labour classification. A payroll cost is determined by multiplying these estimates by the anticipated average rate per hour and the number of working hours expended for the year. The amount of each element of cost such as supplies, maintenance, utilities, payroll taxes, depreciation and insurance is determined from historical experience in relation to the anticipated number of direct labour hours and payroll costs. The anticipated total cost of the manufacturing operation divided by the direct labour hours is then used as the standard manufacturing cost per hour.

Standards are established for each item of raw material and all purchased parts. The Purchasing Agent prepares a list of all purchased items and estimates the normal delivered cost of each item including freight. Supplier's catalogues, quotations and historical price information are used for this purpose.

A "5 x 8" Cost Record Card (Exhibit 2) was set up for each part, assembly and product that is either purchased or manufactured. Over a period of time, the Shop Superintendent, his assistants and the accountant have reviewed the job records and other data pertaining to each item and have estimated the number of pieces that should be produced per man hour. The estimate is converted into hours per one hundred pieces and is recorded on the Cost Record Card. Because over 3,000 parts are involved, time studies are taken only infrequently and these are limited to high production items. The estimate of labour hours is multiplied by the standard manufacturing rate per hour in order to determine the standard manufacturing cost of the part.

Similarly, the quantity of raw material required for each part, including an allowance for scrap loss and waste, has been determined from prints, templates and by measuring the part itself. This quantity is posted to the Cost Record Card and is multiplied by the standard cost of the specified raw material in order to determine the standard material cost of the part.

These figures are accumulated for each assembly and product so that a total standard cost has been developed for each item that is manufactured or is available for sale.

### Preparing the Forecasts

Sales are projected by month for the year. The Sales Manager estimates the number of each product that he intends to sell each

**EXHIBIT 2**

| 2553 | Arm Shaft | ☐ PURCHASED COMPLETE ☑ MANUFACTURED ☐ ASSEMBLED ONLY | Grain Separator |
|---|---|---|---|
| ITEM NUMBER | NAME | PROCESSING REQ. | DIVISION |

# COST RECORD CARD

Printed in U.S.A. GA-85-92

| DATE | REFERENCE | NO. OF PIECES | TOTAL HOURS | PIECES PER HR. | HRS. PER 100 PCS. | RATE PER HR. | COST PER 100 PCS. |
|---|---|---|---|---|---|---|---|
| 2/53 | Std. | estimated | | 10 | 10.00 | 4.06 | 40.60 |
| 3/53 | 14304 | 75 | 6.2 | | 8.27 | | |
| 7/53 | 14716 | 100 | 8.5 | | 8.50 | | |
| 11/53 | Std. | estimated | | 12 | 8.33 | 4.18 | 34.82 |
| 12/53 | 15149 | 50 | 5.3 | | 10.60 | | |

RAW MAT'L CODE 08-07 REV.

TYPE C. R. Round SIZE 3/4"

DIMENSIONS 6 1/8" FT. PER PC. 0.54

SUBCONTR. REQ. Heat treat

| DATE | STD. PER 100 FT. | STD. PER 100 PCS. | PER CENT VARIANCE | AMOUNT VARIANCE | SUBCONTR. COST |
|---|---|---|---|---|---|
| 11/52 | 8.42 | 4.55 | | | 8.00 |
| 11/53 | 11.69 | 6.31 | | | 8.00 |

month. He works out the dollar value of these products and in addition, estimates the dollar value of parts sales and returns and allowances by month. The accountant determines the corresponding standard cost of sales from the unit standard cost information which has been previously developed. A twelve-month production schedule is prepared. The Sales Manager and the shop people review the sales forecast and work out the shop load and a tentative production schedule for each product. The accountant translates this schedule and the sales forecast into monthly dollar values of purchases, manufacturing costs and month-end balances of inventory.

Expense budgets are prepared. The men in charge of each area of the business estimate their expenses by classification by month.

A profit and loss statement (Exhibit 3) is prepared. The sales, production and expense budgets for each month of the succeeding year are combined into a coordinated plan. Cost of goods sold are calculated for each month by adding the cost of anticipated variations from the standard cost of manufacturing and purchases, based on fluctuations in the production schedules, to the standard cost figures that have been developed at the time that the sales forecast was prepared. The accountant then determines the amount of the provisions for income taxes, bad debts, interest expense, and all similar charges of a financial nature.

A balance sheet is prepared. Accounts receivable are determined from an analysis of terms and collection experience in relation to the sales anticipated for the preceding month. Inventories are worked out on the profit and loss statement. Capital additions are also budgeted. Fixed asset balances are worked out from this budget and the depreciation schedules used for the expense budgets. Short term borrowings are projected from an analysis of cash, receivable and inventory requirements.

Other current liabilities are worked out from an analysis of accounts payable in relation to purchases, a tax payment schedule and the accruals shown on the profit and loss statement. The amount of capital stock and surplus, although not required on a divisional statement, would take into consideration the sale of capital stock, the payment of dividends and earnings shown on the profit and loss statement. The amount of cash available at the end of each month can be determined by deduction.

### Putting Budgets to Work

Each budget is reviewed with the General Manager and the other persons concerned with running the business. The projected statements are compared with the performance in prior years and others in the industry. Management may not like the way the budget adds up, and it may be necessary to revise substantial portions of the plan. But once established, the budgets represent the financial effect of the com-

## EXHIBIT 3

**Small Hard Goods Manufacturing Company**
**1954 Budget**
**Profit and Loss Statement**
**(Hypothetical figures are shown in thousands of dollars)**

| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | Tot. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sales, less discounts | $ 60 | $ 60 | $ 70 | $ 80 | $ 90 | $100 | $100 | $ 80 | $ 70 | $ 50 | $ 50 | $ 55 | $865 |
| Less—returns | (1) | (1) | (1) | (1) | (1) | (1) | (2) | (2) | (2) | (1) | (1) | (1) | (15) |
| Less—allowances | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (12) |
| Less—Net sales | $ 58 | $ 58 | $ 68 | $ 78 | $ 88 | $ 98 | $ 97 | $ 77 | $ 67 | $ 48 | $ 48 | $ 53 | $838 |
| | $170 | $172 | $180 | $186 | $191 | $190 | 185 | $177 | $177 | $179 | $185 | $189 | $170 |
| Cost of goods sold: | | | | | | | | | | | | | |
| Beginning inventory | 13 | 18 | 20 | 22 | 20 | 20 | 18 | 18 | 16 | 12 | 10 | 10 | 197 |
| Material purchases | 8 | 9 | 9 | 10 | 10 | 11 | 10 | 9 | 9 | 8 | 7 | 7 | 107 |
| Factory direct labour | 12 | 12 | 12 | 12 | 13 | 13 | 12 | 12 | 12 | 12 | 12 | 11 | 145 |
| Factory overhead | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 |
| Other costs | (172) | (180) | (186) | (191) | (190) | (185) | (177) | (177) | (179) | (185) | (189) | (190) | (190) |
| Closing inventory | | | | | | | | | | | | | |
| Total cost of goods sold | $ 32 | $ 32 | $ 36 | $ 40 | $ 45 | $ 50 | $ 49 | $ 40 | $ 36 | $ 27 | $ 26 | $ 28 | $441 |
| Gross profit | $ 26 | $ 26 | $ 32 | $ 38 | $ 43 | $ 48 | $ 48 | $ 37 | $ 31 | $ 21 | $ 22 | $ 25 | $397 |
| Selling expense | $ 13 | $ 13 | $ 14 | $ 16 | $ 20 | $ 20 | $ 18 | $ 16 | $ 14 | $ 12 | $ 12 | $ 13 | $181 |
| Gen'l & admin. exp. | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 36 |
| Total | $ 16 | $ 16 | $ 17 | $ 19 | $ 23 | $ 23 | $ 21 | $ 19 | $ 17 | $ 15 | $ 15 | $ 16 | $217 |
| Profit from operations | $ 10 | $ 10 | $ 15 | $ 19 | $ 20 | $ 25 | $ 27 | $ 18 | $ 14 | $ 6 | $ 7 | $ 9 | $180 |
| Other deductions—net | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 |
| Profit before income taxes | $ 9 | $ 9 | $ 14 | $ 18 | $ 19 | $ 24 | $ 26 | $ 17 | $ 13 | $ 5 | $ 6 | $ 8 | $168 |
| Provision for Inc. taxes | 5 | 5 | 7 | 9 | 10 | 12 | 13 | 9 | 7 | 3 | 3 | 4 | 87 |
| Net profit | $ 4 | $ 4 | $ 7 | $ 9 | $ 9 | $ 12 | $ 13 | $ 8 | $ 6 | $ 2 | $ 3 | $ 4 | $ 81 |

bined planning of the organization. The thinking, examination of costs and coordination required in the process of this planning is probably the most important benefit of budgeting in a manufacturing operation of any size since it focuses attention on where the business is going rather than on where it has been. A copy of the projected balance sheet and profit and loss statement, together with the detailed budget that he worked out, is distributed to each person responsible for a share of the business. Revisions in the budget are encouraged whenever necessary. The budget is fundamentally a plan and is never considered to be sacred.

Reports are distributed regularly. The format used for the budget is also used for all historical statements. This does not mean that every figure in the ledger must be copied, nor does it mean that an overwhelming number of pieces of paper and charts must be prepared. The Accountant directs attention to the significant differences between actual performance and the budget. This information is *never* intended to imply condemnation, but is always presented as objectively as possible with the end in view of permitting the person responsible to determine what can be done to take corrective action or to revise *his* plan. The balance sheet and profit and loss statement are the only statements that are typed and distributed to top management. The criteria, in this case, is the overall return on investment.

Results are analysed. Once accepted, the budgets are used as a tool to analyse the anticipated return on investment, to work out break-even charts and to analyse the effect of cost reduction, expansion, and changes in terms, selling prices, production schedules, marketing techniques and methods.

Although it is recognized that this type of approach would often be impractical in a large organization, you, Mr. Small Business Man, need not confine budgeting to one segment at a time of the business. If you believe in financial planning, because of the size and flexibility of your operation, unlike your big business cousins, you may be in a position to rapidly encompass the entire operation and thus obtain the full benefit of this profitable tool.

## FOR FURTHER READING

BUDGETING AND LONG RANGE FORECASTING, By Thomas Chambers, Cost and Management, July-August, 1955.

PARTIAL BUDGETARY CONTROL APPLICATIONS IN SMALL BUSINESS, By N. J. Elliott, The New York Certified Public Accountant, June, 1955.

BUDGETARY CONTROLS, By M. B. Basson, The New York Certified Public Accountant, March, 1955.

BUDGET INSTALLATION PROCEDURE, By Ely Francis, The Controller, June, 1954.

PLANNING AND CONTROL THROUGH BUDGETING, N.A.C.A. Bulletin, March, 1954.

## EXHIBIT 4

### 1954 SALES BUDGET
### BRAKE LINING DIVISION
### YEAR ENDING DECEMBER 30, 1954

**Automotive Estimate**

| | Units | Amount | Total | Sales Estimate |
|---|---|---|---|---|
| **Segments—Wet Mix** | | | | |
| Original Equipment | 14,580,000 | $ 2,703,800 | | |
| Replacement Sales | 708,000 | 184,080 | | |
| Export | 560,000 | 134,400 | | |
| Brand Name Sales | 54,000 | 13,500 | | |
| TOTAL | 15,902,000 | | $3,035,780 | |
| **Segments—Dry Mix** | | | | |
| Original Equipment | 1,740,000 | 483,800 | | |
| Replacement Sales | 596,000 | 190,720 | | |
| Export | 580,000 | 168,200 | | |
| Brand Name Sales | 48,000 | 14,400 | | |
| TOTAL | | | 857,120 | |
| **Blocks** | | | | |
| Replacement Sales | 258,000 | 516,000 | | |
| Brand Name Sales | 52,000 | 104,000 | | |
| TOTAL | 310,000 | | 620,000 | |
| TOTAL | 19,176,000 | | | $ 4,512,900 |
| **Aviation Estimate** | | | | |
| **Segments** | | | | |
| Original Equipment | 2,000,000 | 508,000 | | |
| TOTAL | | | | 580,000 |
| GRAND TOTAL | 21,176,000 | | | $ 5,020,900 |

# *Student Section . . .*

## ACCOUNTING I

**Comments by Colin C. Gourlay**

**QUESTION IV (15 marks)**

On December 31, 1954, the following information was taken from the ledger accounts of the partnership Wade, Noble and Johnson. All accounts except those listed below and the Profit and Loss Account which had a credit balance of $14,000.00 had been closed.

| | |
|---|---|
| C. R. Wade, Capital | $45,000.00 |
| J. T. Noble, Capital | 35,000.00 |
| J. M. Johnson, Capital | 40,000.00 |
| C. R. Wade, Withdrawals | 1,000.00 |
| J. T. Noble, Withdrawals | 4,000.00 |
| J. M. Johnson, Withdrawals | 7,000.00 |

The partnership agreement stated:

(a) Interest at 6% to be allowed on the balances as shown in the capital accounts above.

(b) Salaries to be allowed:

| | |
|---|---|
| C. R. Wade | $ 2,680.00 |
| J. T. Noble | 3,620.00 |
| J. M. Johnson | 5,060.00 |

(c) Remaining profits to be divided equally.

**REQUIRED:**

(a) Give all the necessary general journal entries to record the closing of the remaining accounts.

(b) Prepare a detailed statement of each partner's capital as of December 31, 1954.

**SOLUTION QUESTION IV**

**Wade, Noble and Johnson Partnership**

| | | | |
|---|---|---|---|
| Dec. 31 | Profit and Loss | $7,200.00 | |
| | C. R. Wade, Capital | | $2,700.00 |
| | J. T. Noble, Capital | | 2,100.00 |
| | J. M. Johnson, Capital | | 2,400.00 |
| | To distribute interest at 6% on Caiptal as of December 31, 1954, as per agreement. | | |
| | Profit and Loss | 11,360.00 | |
| | C. R. Wade, Capital | | 2,680.00 |
| | J. T. Noble, Capital | | 3,620.00 |
| | J. M. Johnson, Capital | | 5,060.00 |
| | To distribute salaries as per agreement. | | |
| | C. R. Wade, Capital | 1,520.00 | |
| | J. T. Noble, Capital | 1,520.00 | |
| | J. M. Johnson, Capital | 1,520.00 | |

| | | |
|---|---|---|
| Profit and Loss ..... | | 4,560.00 |
| To distribute balance of Profit and Loss equally as per agreement. | | |
| C. R. WADE, Capital..... | 1,000.00 | |
| J. T. Noble, Capital ..... | 4,000.00 | |
| J. M. Johnson, Capital .... | 7,000.00 | |
| C. R. Wade, Withdrawals | | 1,000.00 |
| J. T. Noble, Withdrawals | | 4,000.00 |
| J. M. Johnson, Withdrawals ..... | | 7,000.00 |
| To close the personal withdrawals to the respective capital accounts. | | |

Statement of Capital

Wade, Noble and Johnson, Partnership

December 31st, 1954

| | C. R. Wade | J. T. Noble | J. M. Johnson |
|---|---|---|---|
| Capital before Books are closed ..... | $ 45,000 | $ 35,000 | $ 40,000 |
| Adjustments of Capital | | | |
| Interest on Capital at 6% ..... | $ 2,700 | $ 2,100 | $ 2,400 |
| Salaries ..... | 2,680 | 3,620 | 5,060 |
| | 5,380 | 5,720 | 7,460 |
| Less | | | |
| Division of Losses ..... | 1,520 | 1,520 | 1,520 |
| Withdrawals .... | 1,000 | 4,000 | 7,000 |
| Net changes in Capital (decrease) .. | 2,860 | 200 | 1,060 |
| Capital Dec. 31, 1954 ..... | $ 47,860 | $ 35,200 | $ 38,940 |

**Marking** 2 marks for each entry. 7 marks for statement of capital.

**Question #4.** This was either very well handled or the students messed it up very badly. The common error here was not to realize that the interest, salaries and balance of profits were to be charged against capital accounts.